



Water Heater Installation

City of Hayward Development Services Department

2011 Update

The information in this handout includes a summary of key code items that will be inspected for water heater installations. The codes referenced are from the 2010 California Plumbing Code.

NOTE: plastic pipe is not allowed in Hayward. This is a local ordinance and it is strictly enforced.

1. **PERMITS AND INSPECTIONS:** Water heater installations require permits and inspections. 2010 CPC 503.0, 504.0
2. **EARTHQUAKE BRACING:** All water heaters shall be braced with straps placed at the upper and lower third of the water heater. The lower strap must be at least 4 inches above the gas control valve. Straps must be listed and installed according to the manufactures specifications. 2010 CPC 508.2
3. **TEMPERATURE and PRESSURE RELIEF VALVE & DISCHARGE LINE:** Water heaters shall be installed with a TPR valve. Discharge piping shall be rigid copper or galvanized steel. The discharge pipe shall be plumbed to the outside of the building with a slope of $\frac{1}{4}$ " **per foot**. The pipe shall terminate pointing downward not more than **2 feet** and not less than **6 inches** above the ground. The valve shall not terminate in a crawl space. The discharge pipe shall not be trapped or have a valve installed at the terminating end. The terminating end shall not be threaded. 2010 CPC 505.6, 608.5
4. **INSTALLATION IN A GARAGE:** Gas water heaters in garages and in adjacent spaces that open to a garage shall be installed so that all burners and burner-ignition devices are located **not less than 18"** **above the floor** unless the unit is listed as flammable vapor ignition resistant. Stands or platform bases for water heaters shall be properly anchored to the floor. Water heaters shall be located or protected so it is not subject to physical damage by a moving vehicle. 2010 CPC 508.14
5. **INTERIOR INSTALLATIONS:** Gas water heaters installed in approved interior locations shall have a watertight pan beneath the heater with a **minimum $\frac{3}{4}$ inch drain** piped to the exterior. See the California Plumbing Code and installation instructions for specific requirements and prohibited water heater locations. 2010 CPC 508.4
6. **INSTALLATION INSTRUCTIONS:** The manufacturer's installation instructions for the specific unit must be followed exactly. The installation instructions must be on the site during inspection. 2010 CPC 508.26
7. **COMBUSTION AIR VENTS:** Water heaters shall have combustion air vents within 12 inches of the top and bottom of the enclosure where the enclosure has volume less than 50 cubic feet per 1000 B.T.U. per hour (for all the appliances within the enclosure). Minimum net area shall be 1 sq. inch per 4000 B.T.U per hour. 2010 CPC 507.4.1
8. **VENTING SYSTEMS:** Venting systems shall be installed according to the manufacturer's installation instructions. SEE ATTACHED DIAGRAM FOR TYPICAL VENT PIPE LOCATIONS. 2010 CPC 510.6.2, 510.10.7
9. **BONDING:** Gas piping shall be bonded. Gas piping is considered to be bonded when it is connected to gas utilization equipment that is connected to the equipment grounding conductor of the circuit supplying that equipment. 2010 CPC 1211.14

